

## **ABSTRACT**

Disclosed are methods of selecting phage encoding a target binding protein. The methods can include forming a mixture comprising a plurality of diverse display phage, a target, and a support, and forming phage immobilized to the support, each of which comprises a phage which binds the target and the target immobilized to the support. Phage that do not bind to the target are separated. Host cells are contacted with the phage immobilized to the support via binding to the target so that the host cells are infected by the phage immobilized to the support. Replicate phage are produced from the infected cells in the presence of the target immobilized to the support, thereby forming replicate phage immobilized to the support via binding to the support. Replicate phage that do not bind to the target are separated. Host cells are contacted with the replicate phage immobilized to the support.